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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,444	10/29/2003	Georg Michelitsch	450117-04804	6782

7590 06/28/2006  
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EXAMINER

MOON, SEOKYUN

ART UNIT PAPER NUMBER

2629

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/696,444	<b>Applicant(s)</b> MICHELITSCH ET AL.	
	<b>Examiner</b> Seokyun Moon	<b>Art Unit</b> 2629	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/29/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) filed on October 29, 2003 has been acknowledged and considered by the examiner. The Initial copy of form PTO-1449 is included in this office action.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Regarding claim 15, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

For further examination purpose, the phrase "*or the like*" disclosed in the claim will be omitted.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 1-10 and 12-15** are rejected under 35 U.S.C. 102(e) as being anticipated by Rosenberg et al. (U.S. Pat. No. 6,750,877 B2, herein after referred to as “Rosenberg”).

As to **claim 1**, Rosenberg teaches a method for operating a haptic interface unit (“*haptic feedback*”) [abstract],

wherein at least velocity information data with respect to at least one haptic device (“*user manipulatable object*”) are generated and/or received [col. 2 lines 35-43],

wherein based on and in dependence of at least said velocity information data (“*velocity of the cursor*” which is controlled by a “*user manipulatable object*”) interaction feedback force data are generated and/or provided being descriptive or representative for an interaction feedback force to be generated and/or to be exerted by said at least one haptic device (“*user manipulatable object*”) [col. 17 line 55 – col. 18 line 5], and

wherein said interaction feedback force data are transmitted to said at least one haptic device (“*user manipulatable object*”) so as to generate and/or exert said interaction feedback force (“*haptic effect*”) [col. 17 lines 30-43], characterized in that

an inverted damping operation mode is provided:

wherein said interaction feedback force data are at least partly generated to be representative for an interaction feedback force ("*haptic effect*") which increases with velocity information data (the speed of moving "*user object 34*") being representative for a decreasing velocity, so as to generate and/or exert an interaction feedback force which increases with a decreasing velocity and/or [fig. 5a] [col. 17 lines 55-61]

wherein said interaction feedback force data are at least partly generated to be representative for an interaction feedback force which decreases with velocity information data being representative for an increasing velocity, so as to generate and/or exert an interaction feedback force, which decreases with an increasing velocity [fig. 5a] [col. 17 line 65 – col. 18 line 5],

said velocity being a velocity with respect to a respective haptic device or a pointing unit thereof.

As to **claim 2**, Rosenberg teaches said inverted damping operation mode being performed with respect to vectorial components (whether the haptic effect is an attractive / repulsive force) of said interaction feedback force and/or said velocity [col. 11 lines 7-20].

As to **claim 3**, Rosenberg teaches that said interaction feedback force data are generated to describe said interaction feedback force as a damping force, so as to generate and/or exert an interaction feedback force acting against a given velocity or a vectorial component thereof, in particular in the sense of a counterforce or frictional force ("*repulsive force*") [col. 17 line 55 – col. 18 line 5].

As to **claim 4**, Rosenberg [fig. 5a] teaches that the interaction feedback force data are generated to describe said interaction feedback force having an absolute value

f being--at least piecewise--a positive monotonically decreasing function g of the respective velocity or of a vectorial component thereof to fulfill the relation  $f(v) \propto g(v)$ .

As to **claims 5 and 6**, Rosenberg teaches a positive monotonically increasing function,  $h(v)$  which is equal to  $|v|$  ("*velocity of cursor*").

Rosenberg does not expressly teach  $g(v)$  being equal to  $1/|v|$ .

However, examiner takes official notice that it is known to use an inverse relation when the derivatives of two function have different polarities while both functions has same characteristic curve.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to specify the function  $g(v)$  as  $1/|v|$  to represent a relation between the force and the velocity while maintaining the simplicity of the function.

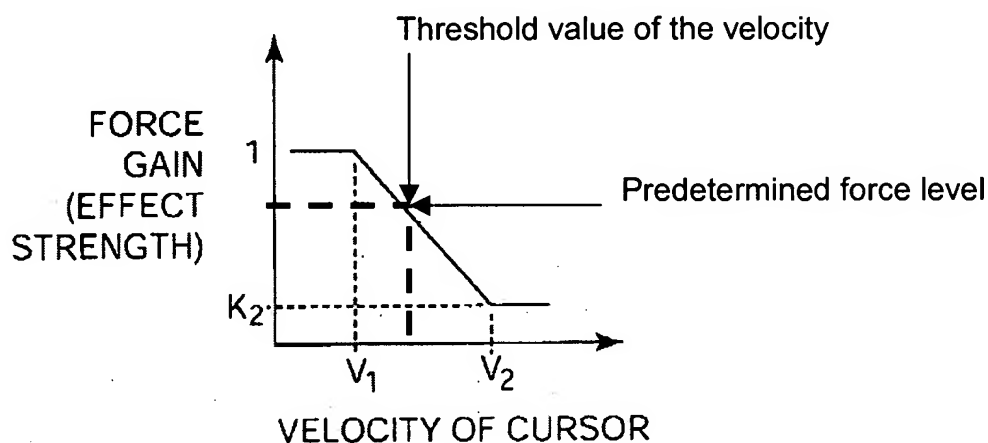
As to **claim 7**, Rosenberg [figs. 5a, 5b, and 5c] teaches that said at least piecewise positive and monotonically decreasing function g ("*velocity of cursor*") is chosen to be at least piecewise a step function, a staircase function and/or a linear function.

As to **claim 8**, Rosenberg teaches that said interaction feedback force data are generated to describe said interaction feedback force as a force which is at least piecewise dependent on a position [col. 11 line 37 – col. 12 line 6].

As to **claim 9**, Rosenberg teaches that said position is chosen to describe to a position of a respective haptic device, in particular said pointing unit thereof (the cursor position is determined by the position of "*user object*") [col. 11 lines 21-54].

As to **claim 10**, Rosenberg [col. 11 line 64 – col. 12 line 6] teaches that said position is chosen to describe a position of a corresponding abstract pointing means (“*cursor*”) within a data structure, in particular of a graphical user interface.

As to **claim 12**, Rosenberg [drawing 1 provided above] teaches that the absolute value of the interaction feedback force is decreased to a predetermined value, in particular of zero, or below a predetermined force level, if the respective velocity increases above a given threshold value.



Drawing 1

As to **claim 13**, Rosenberg [abstract] teaches a haptic interface unit (“*haptic feedback*”) which is capable of performing the operating method.

As to **claim 14**, Rosenberg [abstract] teaches computer program product (“*application program*”), comprising computer program means being adapted to perform the method for operating a haptic interface unit, when it is executed on a computer.

As to **claim 15**, Rosenberg [abstract] inherently teaches a computer readable storage medium comprising the computer program product since it is required for

Rosenberg to include a means storing the application program in order to execute the application program for operating the haptic interface unit.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg.

Rosenberg [drawing 1 provided above] teaches that a holding force mode is provided in which the absolute value of the interaction feedback force is increased to a predetermined value or above a predetermined force level, if the respective velocity decreases below a given threshold value.

Rosenberg further teaches that the absolute value of the interaction feedback force is increased in a position dependent form (the type of the force applied depends on the distance between the target and the cursor) [col. 11 line 64 – col. 12 line 6] to a predetermined value.

Rosenberg does not expressly disclose that the interaction feedback force is increased if the respective velocity decreases when the force is in a position dependent form.




However, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Rosenberg to combine different embodiments or functions of Rosenberg, i.e. implementing the interaction feedback force to be effected by both of the position and the velocity, into one function in order to provide more effective haptic control method by designing the haptic device to be controlled by both position and velocity.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is (571) 272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000. June 19, 06 S.M.

  
**KENT CHANG**  
**PRIMARY EXAMINER**